

High Speed Rail (Green Line) - Package (3) - 660 KM (Sokhna - Mattrouh)



HSE Induction



Rules & Welfare Facilities

All Trainees shall :

- Switch off the cell phone or on the silent mode.
- Avoid any side conversations.
- All Questions will be discussed at the end of the session.
- Smoking is not allowed inside the room.
- If you need to go to the toilet please, you.

Project Description:

Employer
:

National Authority of Tunnels (NAT)

Employer Consultant
:

SYSTRA

Contractor
:

JV of Orascom Construction, The Arab Contractors, and Elsewedy Electric for Power System Projects

Project
:

High-Speed Rail Project (HSR) – Green Line MEP Package 3

Project Location
:

Electric Express Train (passengers and cargo) from El Ain El Sokhna City on the Red Sea Coast to Marsa Matrouh on the Mediterranean Coast



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Project Health, Safety and Environmental Policy



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Project Drag and Alcohol Policy

Project Layout





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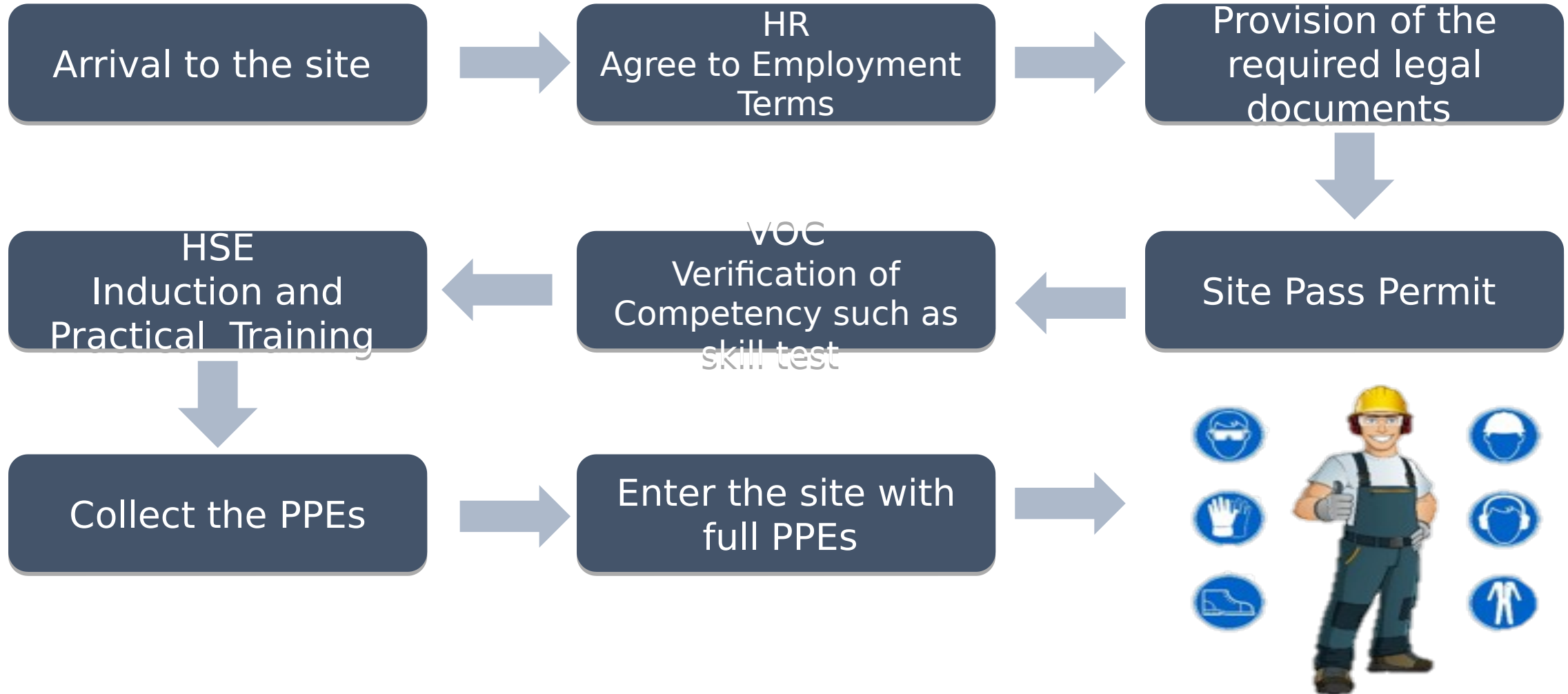
Emergency Response

TBA

Project HSE Management System Standards

- All accidents are caused and therefore can be prevented.
- All activities shall be carried out with minimized risk.
- Each person has the right to refuse instructions leading to violation of HSE requirements.
- All managers/supervisors are responsible for the performance of their subordinates.
- Hazards/risks will be assessed, and control measures defined well before starting any work.
- Each person on the Project shall not create a situation that potentially harms others.
- Each person has the duty to report any unsafe situation for fast rectification.
- Each person on the Project shall be committed to the Zero Harm Principles.

Competency Verification and HSE Training



Site Access And Security

- Access to the site is only through a gate pass card.
- Losses of the gate pass/card are to be reported to the Site Security Manager .(site ID)
- working and mobilization areas are covered by the security staff with fences.
- Lone works are prohibited.
- Security and HSE staff have the right to stop the violators and application of disciplinary actions



Site Requirements

Drug, Alcohol, and using knives or guns Policy

- Random testing
- Post-Incident-Testing
- Recognition of under the influence (suspicious behavior)
- Using knives or guns is prohibited.



Heat Stress

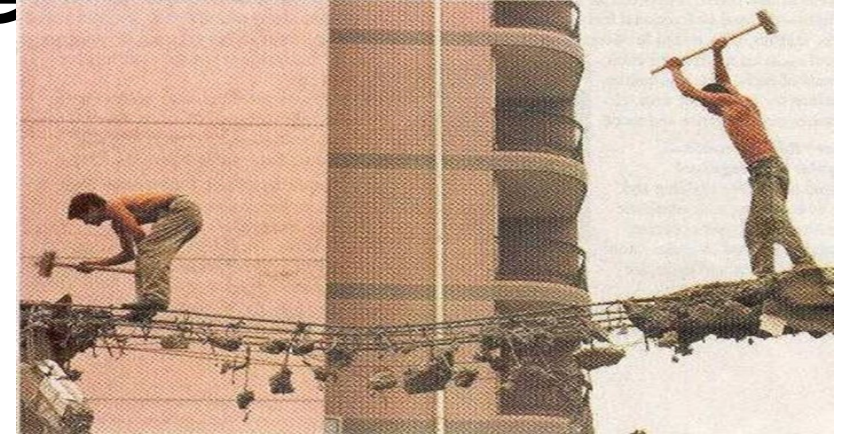
- Schedule outdoor activities in the morning or evening time, if possible.
- Ensure proper hydration.
- Avoid prolonged sun exposure by covering your body, and taking breaks in shaded areas.
- Leave the sun immediately when feeling dizzy or unwell, contact the Supervisor or Site Clinic.



Reporting and Correcting Safety Issues

- How to Report any Unsafe Condition / Act

- ☐ Notify your Supervisor or Site Safety Supervisor!
- ☐ Communicate the issue and assist in the solution to correct it!
- ☐ Take ownership, and follow up!
 - ☐ We all have a responsibility for Safety!



Reporting and Correcting Safety Issues

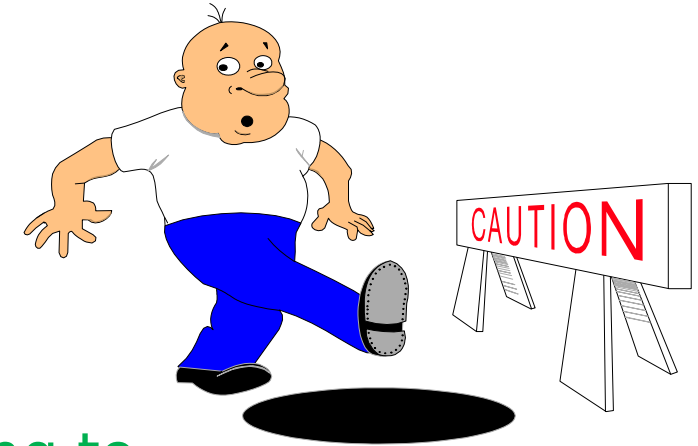
What to do if you are asked to work unsafely, or you see an unsafe condition that could potentially affect another employee

☐ . Every worker has “Stop Work Authority”! According to Zero Harm programme

☐ Immediately contact your Supervisor or Site Safety Supervisor!

☐ You must take ownership!

☐ We all have responsibility for Safety!



First Aid / Injury Reporting

- ALL First Aids shall be reported immediately (e.g.: scratches, burns, bruises, and particulates in the eye) regardless of how minor.
- All injuries shall be treated at the Site First Aid Unit.
- For Serious injuries contact Supervisors or Safety Personnel
- Emergency eye wash stations are required where chemicals are used



Emergency Contacts:

| Title | Name | Mobile |
|----------------|------|--------|
| First Aid Unit | | |
| Site Manager | | |
| Site engineer | | |
| HSE Manager | | |



Emergency Management Plan

▪ Emergencies can happen at any time emergencies can involve:

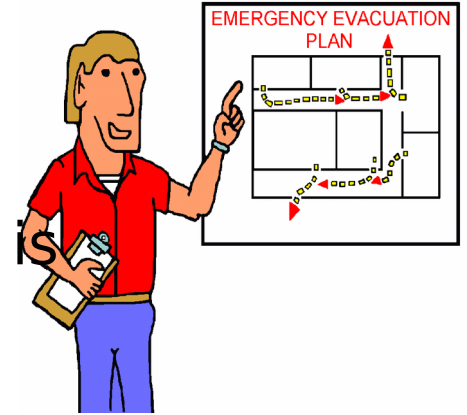
- Fires
- Natural disasters
- Chemical spills
- Explosions
- Medical Emergencies



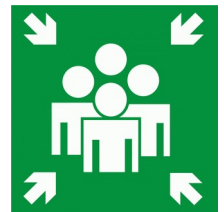
Emergency Management Plan

- To Know where the primary and secondary evacuation assembly areas are

- Go immediately to the assembly area when the notification is made



- To Know what the emergency notifications are i.e. alarm, sirens.



- To Know the evacuation routes (be aware the routes may change as the project progresses)

- Always follow the directions of your Supervisors during and after

Worker's Grievance Mechanism

- All site personnel can voice concerns, grievances, and suggestions, without fear of punishment or retribution by using the grievance box which is located in.....
- Just under control of HSE



Welfare Facilities

- Shaded rest area available on the site for eating and drinking during the break time.
- Drink water only from the dedicated points.
- Eating, drinking, and sleeping are prohibited in the workplace.



Welfare Facilities

- Forbidden to urinate or defecate outside the toilets.
- Wash your hands before and after using the toilets.





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Assembly point and First Aid Room

Layout for each Station to be added with the emergency route Plan

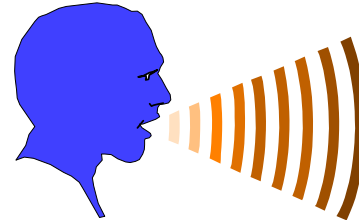
Work At Heights - Rescue Tips

- A rescue plan is required before any work at heights commences.
- Rescue plan must include emergency notification, required equipment, and procedures to be used in the event of an emergency.



Emergency Response- Fire

- **RAISE THE ALARM**
- Inform others in the area.
- Notify Your Supervisor and Safety.
- Attempt to put out the fire with a fire extinguisher only if it is safe to do so and you have been trained.
- Evacuate the area.



Near Miss Reporting

- Report Near Misses to your Supervisor and HSE Officer for investigation and action to prevent accidents!
- Share your observation and experience with your team – keep them safe!

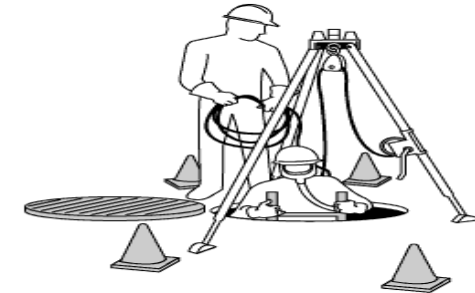


**Proactive
Safety**



Confined Spaces

- Let Us Add the definition of Confined Space
- Only **TRAINED** personnel will be allowed to enter a confined space to conduct inspections and/or work.
- **ENTRY** is the act in which any part of the body intentionally passes through the opening into a confined space.
- The Safety Team will evaluate all confined spaces prior to the initial work to help determine potential risks.



- Barricades must be installed to protect against accidental exposure to hazards.
- Barricades are used to prevent or limit employees access to work areas.



Housekeeping

- Good housekeeping is a basis for a safe work environment; it prevents accidents and fires.
- Deposit all trash and scrap in the proper containers.
- Keep immediate work areas clean, especially when working at heights on scaffolds or platforms and confined spaces.



Housekeeping

- Practice good housekeeping (clean area, legible labels, etc.) to minimize unnecessary generation of waste .
- All work areas shall be maintained free of accumulation of debris.
- Housekeeping is the **foundation** of our Safety Program.



Classification of waste barillas

| S | Type of waste | Bin Color |
|---|------------------|-----------|
| 1 | Hazardous wastes | Red |
| 2 | Plastic wastes | Blue |
| 3 | Paper Wastes | Green |
| 4 | Wood wastes | Brown |
| 5 | Scrap metal | Black |
| 6 | Concrete wastes | Grey |

Working at Heights

- **Scaffolds**
- Only qualified persons shall erect, modify or dismantle any scaffolds **must have VOC**.
- Shall have sufficient safety handrails System fully decked.
- During erection and/or dismantling the area **MUST** be barricaded to prevent unauthorized entry.
- No one is allowed to use the scaffold until it is complete, inspected, and tagged.



Working at Heights

- Inspection daily by a competent person – weekly by Scaffolding Inspector
- **Green**: Is ready to use (Check for a weekly inspection)
- **Red**: No use under any circumstance

Scaffold Identification Tag

Scaffold No.:
رقم السقالة:

Location:
المكان:

Erection Date:
تاريخ الإنشاء:

Expected Removal Date:
تاريخ الإزالة المتوقع:

Safe working Load:
الحمولة الآمنة:

Light Duty 25 kN/m²
حمولة خفيفة

Medium Duty 50 kN/m²
حمولة متوسطة

Heavy Duty 75 kN/m²
حمولة ثقيلة

Fall protection required
الحماية من السقوط مطلوبة

Erected By:
تم الإنشاء بواسطة:

Mobile No.:
الهاتف:

I have inspected and approved the scaffold and its safe for use
تم فحص السقالة و الموافقة عليها و هي صالحة للاستخدام

Inspected By:
تم الفحص بواسطة:

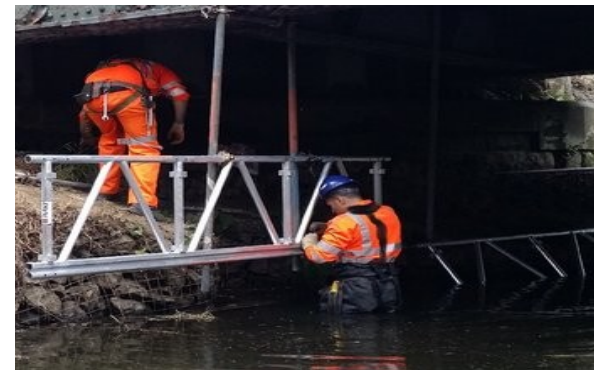
Look at the back side
أنظر الجانب الآخر من التاج



Work Near and Over Water

▲ before commencing working adjacent ,over, in or under the water the following is mandatory:

- Permit to work and MSRA shall provided prior starting the activities.



Work Near and Over Water

- the required PPE must be worn e.g. lifejacket.
- the provision of emergency preparedness, e.g. contingency plans, rescue/evacuation arrangements shall be provided.



MEWP Equipment

Requirements:

- MEWP Equipment must only be operated by trained authorized personnel.
- MEWP Equipment must have 3rd party certificate and inspected before use.
- Operators must be properly trained to utilize the equipment safely.
- No workers without training SHALL attempt to operate the machinery.
- Working at heights exposes workers to other hazards beyond falling, such as electrocution hazards.
- Must wear a safety Harness





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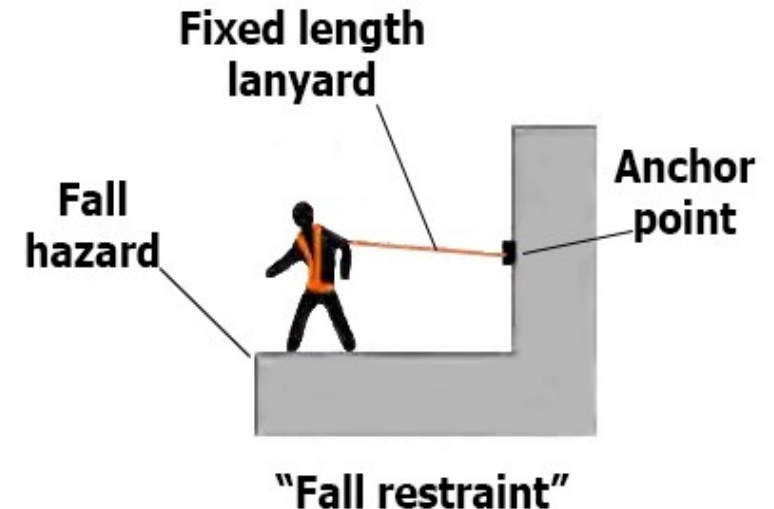
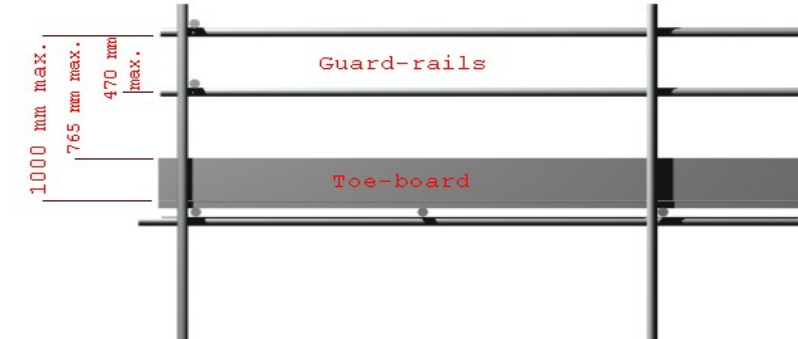
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Fall Protection

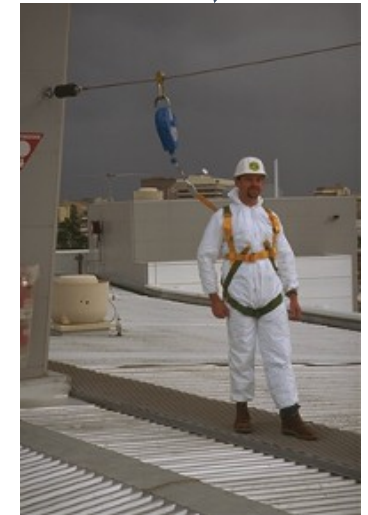
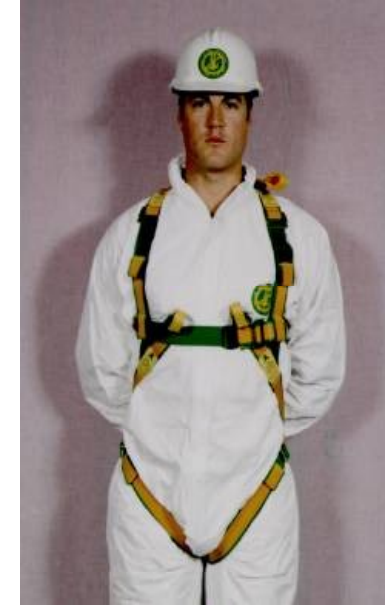
- Priority of Fall Protection Measures:

1. Collective Protection (guardrails, scaffolds, safety nets)
 2. Alternative means of access (aerial lift)
 3. Personal Protection (fall restraint, fall arrest)
- ❑ **100 %-tie-off mandatory!**
 - ❑ **Always use best protection possible!**



Fall Protection - PPE

- Check the following before use:
 - Check the condition of the safety Harness
 - Harness is fitted properly
 - Belts of the harness
 - Shock-absorbing lanyard
 - Life lines
 - Anchorage points



CHECK

Fall Protection - PPE

Full body harness must be worn properly and tied off to a suitable anchor point when:

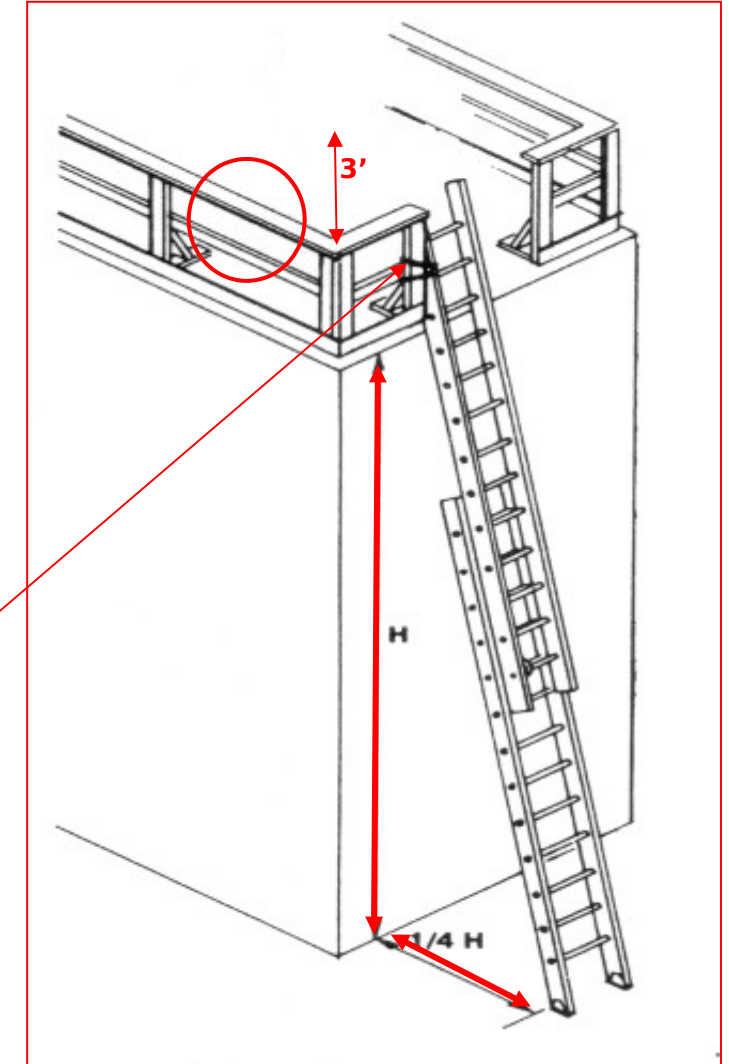
- Working outside handrail and/or there is potential to fall 1.8 metres or more
- Inside aerial lift equipment
- In a designated area requiring FP
- On a scaffold that is tagged that fall protection is needed



Ladders

- Ladders are a means of access between two different elevations only and are not generally considered to be a work station, and may only be used strictly adhering to the following requirements

- Use the right ladder for the job.
- Inspect the ladder before and after use.
- Tag and remove defective ladders for repair.
- Ensure stability (1:4 Ratio wall to height).
- Ladders must extend 1m above the step-off point.
- **Secure the top of the ladder, as needed.**
- Portable ladders must be tied off or held.



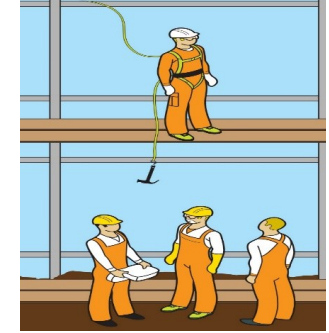
Ladders

- Face the ladder when ascending or descending.
- Maintain 3-point contact.
- Hoist materials or attach them to a belt.
- Do not carry materials in your hands.
- Make sure that only one person at a time is on the ladder.
- Don't stretch or reach beyond the side rails of a ladder. You could lose your balance.
- Never stand any higher than on the third rung from the top of a ladder.



Dropped Objects

- All tools and material will be tied off when being used at heights (lanyards).
- Tools and small parts when not in use will be stored in sturdy canvas bags.
- Pre- and post-job inspections will be conducted in all elevated work locations to verify that area has been cleared of loose objects.
- Areas below all elevated work shall be marked and isolated to prevent entry of unauthorized personnel.



- Use caution on muddy surfaces
- Clean up spills on wet floors
- Steps must be in good condition
- Remove protruding objects.
- Keep aisles, walkways, and stairs clear
- Use designated pathways and keep them clear
- Use handrails when ascending (climbing) or descending stairs
- Ensure good housekeeping

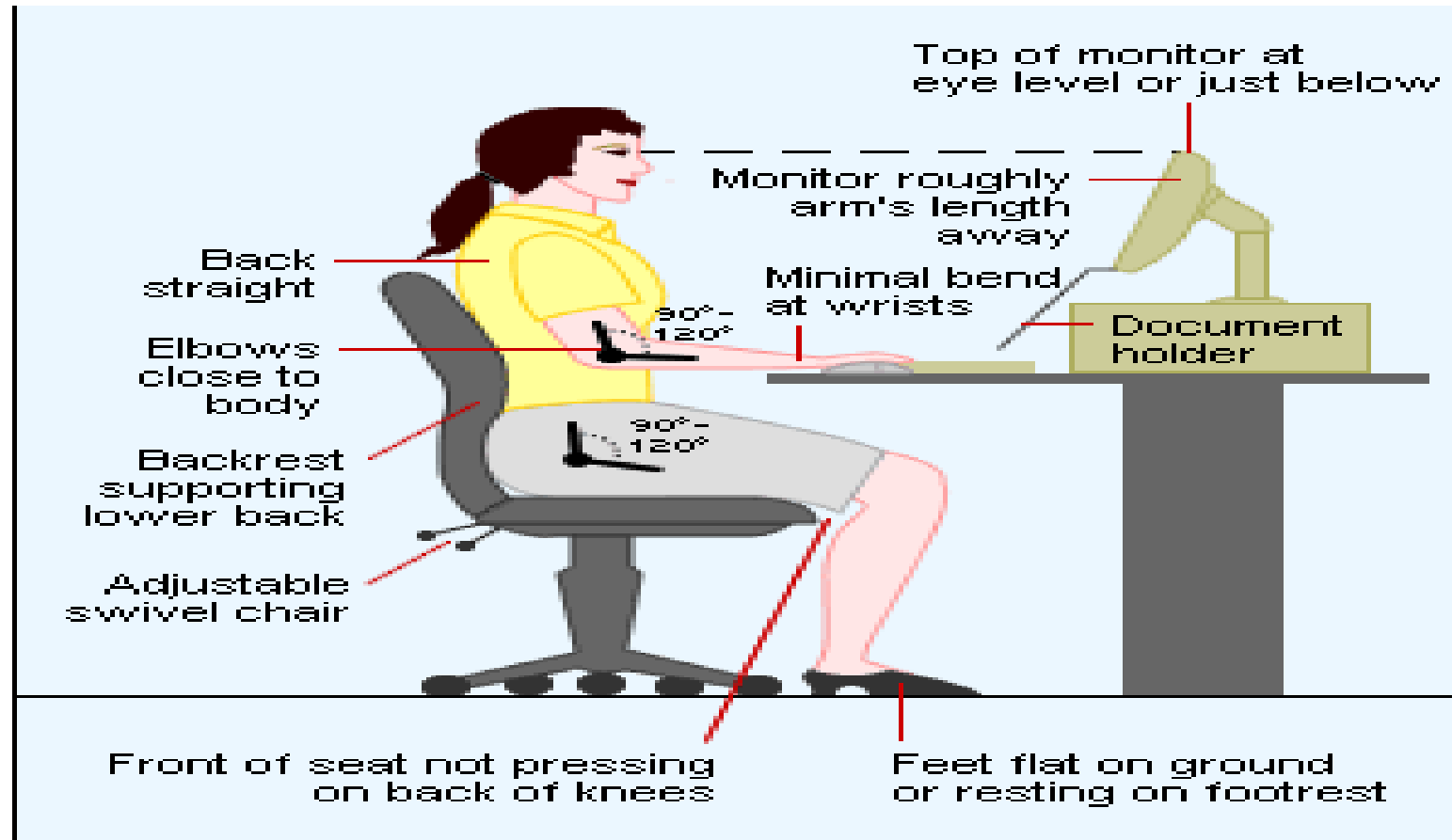


Slips, Trips and Falls

- Footwear is in good condition and right for job function and weather condition.
- Place signs to warn others of hazard.
- If you can not fix it - Place a work order to get the problem fixed.
- Immediately report all work related injuries to your supervisor.



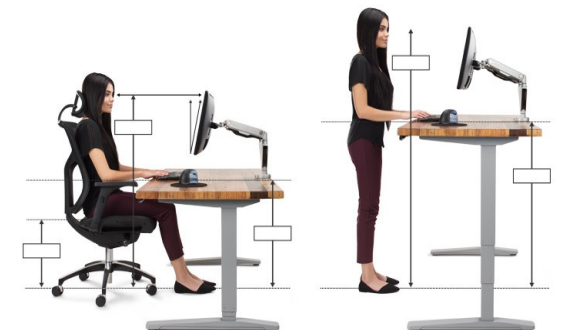
Ergonomics OFFICE SAFETY



Ergonomics OFFICE SAFETY

Localized pressure on body part – hazards:

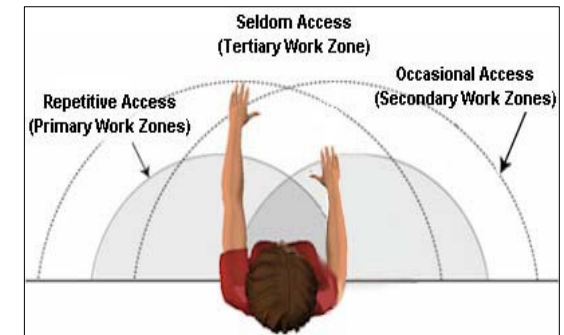
- ✓ Pressing the body/part of the body against hard or sharp edges.
- ✓ Standing/kneeling for prolonged periods on hard surfaces.
- ✓ Using tools with hard handle surfaces or short handles.
- ✓ Alternate between bending, kneeling, sitting, and squatting; use sit/stand stools or tables.



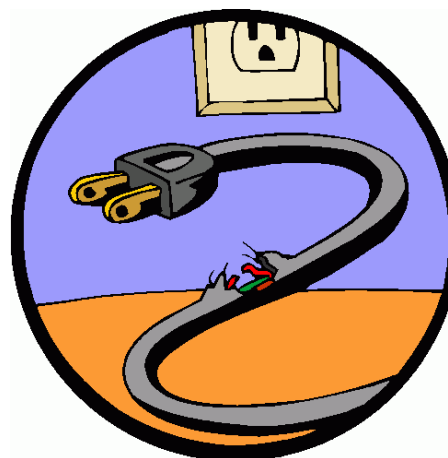
Ergonomics OFFICE SAFETY

Repetitive motions - solutions :

- ✓ Arrange work to avoid unnecessary motions.
- ✓ Spread repetitive work out during the day.
- ✓ Take stretch pauses.
- ✓ Rotate task with co-workers if possible.
- ✓ Change hands or motions frequently.



OFFICE SAFETY



Personal Equipment

Protective

PPE must meet accepted standards for performance and materials.

Minimum requirement:

- ✓ Hard hat .
- ✓ High visibility vest .
- ✓ Boots with steel tow and steel midsole.
- ✓ Eye protection.
- ✓ Long pants and long sleeves
- ✓ Gloves



Eye Protection

- Safety glasses must be worn at all times
- Safety glasses will protect your eyes from flying objects, dust, and UV rays (ultraviolet rays)
- Operations that could cause flying objects include woodworking, grinding, spot welding, and jobs that include hand tools.



Type of Protection

- Face shield's provide the high level of protection.
- Chemical splash goggles protects against fluids by sealing tightly to the face.
- Overglasses provide protection over prescription glasses
- RAY BAN sun glasses are not safety glasses!



Foot Protection

- Steel Toe Boots or Metatarsal guards are required
- Special boots for electrical work could be required when working around high voltage
- Work boots need to have a heel to keep feet from slipping when climbing a ladder
- Chaps and leggings have to be used in certain jobs (using a Chainsaw)



Head Protection

- Today's hard hats come in a Variety of styles.
- Hardhats must be worn brim forward
- Hardhats will provide protection by resisting penetration by objects, absorb shock of a blow
- Check hard hat daily for signs of wear and tear



Respiratory Protection

- **No one is allowed to use respiratory protection without being trained, medically examined, and fit tested**
- The only exemption is using a dust mask for nuisance dust (i.e. sweeping, cutting concrete, etc.). Always get approval from Site Management before using a dust mask.
- This orientation does not qualify anyone to use respiratory protection



Hearing Protection

- Hearing protection is required when working in or around the following areas
 - Grinding
 - Operating heavy equipment
 - Running an impact wrench
- Rule of thumb: if you cannot carry on a conversation in a normal tone of voice with someone at arm's length you are likely near or over 90 dBA.





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Site PPE Color Code

Matrix

are not

allowed

- Site made tools are never allowed to be used on site.



Equipment Guarding & Hand Tools

- Tools and equipment must be in good condition and well-maintained.
- Should be inspected by a qualified electrician and color-coded before using.
- Do not use power tools if their guards are not in place.
- Tools, guards, and protective devices must not be altered.



Equipment Guarding & Hand Tools

- Inspect your tools daily to ensure they are in proper working order.
- Only qualified, trained persons may use tools and equipment.
- Before using any equipment, it is necessary to ensure that the guards are in place.



| PROJECT COLOR CODE الكود اللوني للمشروع | | | |
|---|----------------------|--------|-------|
| Duration | الفترة | Color | اللون |
| From <u>January</u> to <u>March</u> | من يناير الى مارس | Green | أخضر |
| From <u>April</u> to <u>June</u> | من إبريل الى يونيو | Yellow | أصفر |
| From <u>July</u> to <u>September</u> | من يوليو الى سبتمبر | Blue | أزرق |
| From <u>October</u> to <u>December</u> | من أكتوبر الى ديسمبر | Brown | بنى |

Permit To Work (PTW)

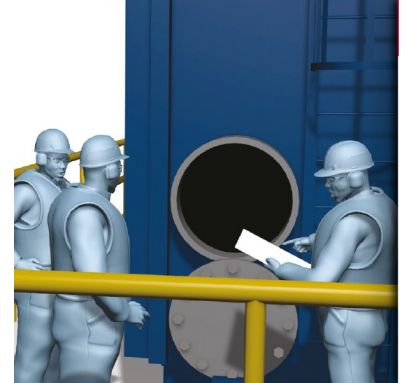
Work

- The following activities must be done using a PTW
- Excavation
- Operational Areas and Live Systems
- Hot Works
- Cold works
- Radiography
- Confined Spaces
- Lifting operations
- Modification of Barriers and Covers
- High Risk Activities (e.g. working over/ adjacent the water - blasting)



Permit To Work (PTW)

- Each subcontractor is responsible for issuing their PTWs
- Only trained and authorized persons can apply for a PTW
- Check with your Supervisor if you have any questions whether or not a permit is required
- PTWs must be posted at the work area

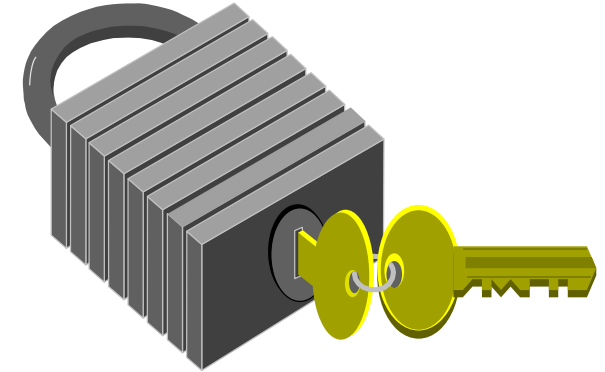


Never enter areas marked “Operational Area” without authorization!

Lock Out, Tag Out (LOTO)

What is it?

- Lockout is the safe and positive way of isolating energy sources of equipment and/or systems
- A padlock is placed on an energy isolating device that is in the off or closed position
- Tagout is applying signage to identify responsible person
- DO NOT tamper with Lockout/Tagout devices unless authorized



LOCKING/ LOCKOUT

Lockout : isolation of a source of hazardous energy, including releasing any residual hazardous energy that might be present, and securing an isolation point by locking it.



TAGGING/ TAGOUT

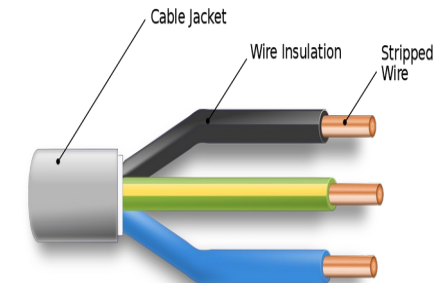
Tagging: placing a specific tag on a lock or point of isolation to identify the area under operation/ commissioning.

Tagout: placement of a “Danger—Do Not Operate” tag (without a lock).



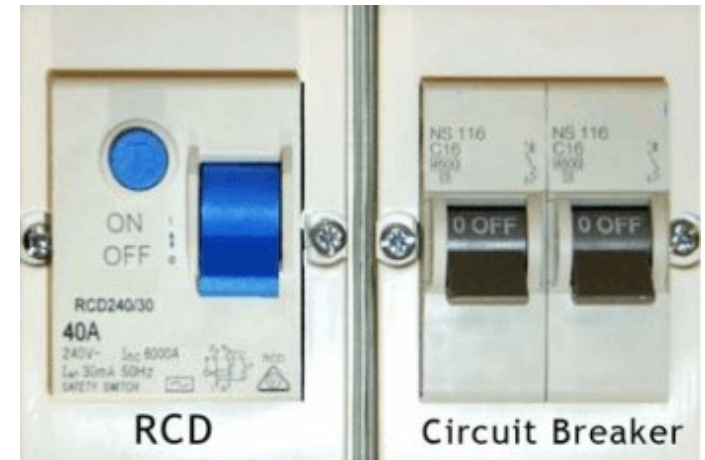
Electrical Safety

- Electrical cords and tools shall be inspected daily before the start-up of work activities by **the electrical team**.
- Defective or damaged cords shall be taken out of service immediately.
Check the color code/inspection tag!
- All cords shall be double-insulated and have ground prongs intact.



Electrical Safety

- String up cords and leads to prevent tripping hazards. Use zip ties, or other nonconductive material, and avoid sharp edges.
- RCD “Residual Current Device”, also GFCI “ground fault circuit interrupter” or ELCB “Earth-leakage circuit breaker”) shall be used at all times directly into the power source when using any electrical of any type.
- RCDs are designed to sense an imbalance in current flow over the normal path.



Electrical Safety

- Make sure that all electrical equipment is connected to an earthing point.
- Do not use domestic equipment and tools.
- Observe all warning signs for energized equipment, access only if competent and authorized.



Thunder Storms & Inclement Weather

- We use the 30 Rule, when you see lightning the count how long it takes to hear thunder, If it takes less than 30 seconds you should seek shelter.
- Supervision will shut down all work if conditions are severe enough.
- Workers will shelter at designated locations.



Wind Speeds

- Maximum permissible wind speed for lifting and working over 20 m is 42 km/h.
- Lifts with large surface areas may be shut down at significantly lower wind speeds.
- The decision to suspend lifting or working at height operations will be made by the subcontractor Site Manager or his delegate and subcontractor's HSE Manager.
- Site Safety shall authorize all lifting operations.



Vehicle operation on-site

- All drivers must have a government driving license according to Egyptian traffic law.
- Seatbelts shall be worn by ALL occupants of ALL vehicles.
- All vehicles shall be inspected before being allowed on site By the logistic team and mechanic under approval from HSE.
- Vehicles entering the work areas shall have a revolving roof light or flashing hazard lights illuminated.
- All vehicles in the work area shall have an audible reverse alarm.



Vehicle operation on site

- Maximum speed limit on site is 20 km/hr.
- Pedestrians shall always be given the “right of way” on the site.
- Vehicles with restricted rear views shall not be operated in reverse without the direction of a spotter/ banksman.
- Mobile telephones/two way radios and other electronic devices shall not be used by the operator of any vehicles on site.



Seat Belts

- Seat belts are mandatory for all passengers and all vehicles
- Lap belts prevent EJECTION and protects the LOWER body
- Shoulder belts keep the HEAD and CHEST from striking the dashboard or windshield



- Pedestrian walkways have been designated and shall be used at all times by pedestrians on site.
- Pedestrians shall wear high-visibility clothing (jackets/ vests) while on site.
- Pedestrians shall not enter zones that have been demarked and isolated for equipment operations, without appropriate permission.
- Pedestrians shall remain alert at all times and not use ear audio devices while traversing the site.



Material Handling

- Size, weight and shape of materials to be moved shall dictate the choice of equipment to be used for the operation.
- Load capacity shall be clearly marked on all lifting equipment.
- If mechanical equipment is to be used for material handling workers must be trained and where applicable, certified in the use of the equipment.



Safe Manual Handling

• Safe Lifting Technique

- ✂ **Size up the load** to make sure it is not too heavy or too large.
- ✂ **Adopt** a stable footing.
- ✂ **Bend your knees** and reach down to the load.
- ✂ **Keep your back straight** as you lower yourself.
- ✂ **Grip the load** with both hands.
- ✂ **Slowly push up with your legs** and keep your back straight.



Safe Manual Handling

- If a load is too heavy or too large for you to lift or carry on your own, use alternatives or get help.



Wheelbarrow



Pick-up Truck

Lifting Safety Procedures



LIFTING PERMIT

For loads less than 10 ton

تصريح الرفع (لأحمال أقل من 10 طن)

Cost Center Name : _____ Cost Center No. : _____

| Lifting description: <u>وصف الرفع:</u> | | | |
|---|---|---|-------|
| Lifting Checklist <u>قائمة فحص التصويب و الرفع</u> | | | |
| SN | Item | Yes | No |
| 1 | Crane setup on level ground and outriggers fully extended | | |
| 2 | Pickup and drop paths identified | | |
| 3 | Rigging equipment inspected and correctly color coded | | |
| 4 | Is lift area around the crane controlled | | |
| 5 | Daily crane checklist complete and safe to commence work | | |
| | | Calculations <u>الحسابات</u> A= _____ m B= _____ m C= _____ t (hook block and tackle) D= _____ t Total Weight(C+D)= _____ Maximum capacity <u>السعة القصوى</u> (at Crane setup)T Current capacity <u>السعة الحالية للونش</u>% (Note: max. 90 %) | |
| Operators Info: <u>معلومات عن المشغلين:</u> | | | |
| Crane operator | _____ | Lifting Foreman | _____ |
| ID Number | _____ | ID Number | _____ |
| Time & Date | _____ | Time & Date | _____ |
| Crane Type: | _____ | Capacity: | _____ |
| | | Plate No.: | _____ |
| Prepared By: <u>أعدت بواسطة:</u> | | | |
| _____ | _____ | _____ | _____ |
| Name | Date | Signature | |
| Approval <u>موافقة</u> | | | |
| Technical Office | _____ | _____ | _____ |
| HSE | _____ | _____ | _____ |
| Name | Date | Signature | |

Lifting Safety Procedures

- The lifting area shall be completely barricaded to prevent unauthorized personnel from entering while lifting is in progress.
- A qualified rigger must be present to rig all loads.
- The path to the final destination of a lift must be verified as being clear before a lift may proceed.
- Tag lines shall be used to control all lifts.





The Arab Contractors
Osman Ahmed Osman & Co.
المقاولون العرب
عثمان أحمد عثمان وشركاه



PSP



Heavy & Lifting Inspection Card

Equipment

Valid From January to March

Equipment Inspection Card

Card Serial Number From 1 to 1000

| | |
|------------------------------------|----------------------|
| Company Name إسم الشركة | <input type="text"/> |
| Equipment Type نوع المعدة | <input type="text"/> |
| Equipment Brand ماركة المعدة | <input type="text"/> |
| Equipment Serial No. رقم المعدة | <input type="text"/> |
| Equipment Condition حالة المعدة | <input type="text"/> |
| Inspection date تاريخ الفحص | <input type="text"/> |
| Inspected By القائم بالفحص | <input type="text"/> |

Don't alter or remove this card

Valid From April To June

Equipment Inspection Card

Card Serial Number From 1 to 1000

| | |
|------------------------------------|----------------------|
| Company Name إسم الشركة | <input type="text"/> |
| Equipment Type نوع المعدة | <input type="text"/> |
| Equipment Brand ماركة المعدة | <input type="text"/> |
| Equipment Serial No. رقم المعدة | <input type="text"/> |
| Equipment Condition حالة المعدة | <input type="text"/> |
| Inspection date تاريخ الفحص | <input type="text"/> |
| Inspected By القائم بالفحص | <input type="text"/> |

Don't alter or remove this card

Valid From Oct, to Dec.

Equipment Inspection Card

Card Serial Number From 1 to 1000

| | |
|------------------------------------|----------------------|
| Company Name إسم الشركة | <input type="text"/> |
| Equipment Type نوع المعدة | <input type="text"/> |
| Equipment Brand ماركة المعدة | <input type="text"/> |
| Equipment Serial No. رقم المعدة | <input type="text"/> |
| Equipment Condition حالة المعدة | <input type="text"/> |
| Inspection date تاريخ الفحص | <input type="text"/> |
| Inspected By القائم بالفحص | <input type="text"/> |

Don't alter or remove this card

Valid From July To September

Equipment Inspection Card

Card Serial Number From 1 to 1000

| | |
|------------------------------------|----------------------|
| Company Name إسم الشركة | <input type="text"/> |
| Equipment Type نوع المعدة | <input type="text"/> |
| Equipment Brand ماركة المعدة | <input type="text"/> |
| Equipment Serial No. رقم المعدة | <input type="text"/> |
| Equipment Condition حالة المعدة | <input type="text"/> |
| Inspection date تاريخ الفحص | <input type="text"/> |
| Inspected By القائم بالفحص | <input type="text"/> |

Don't alter or remove this card

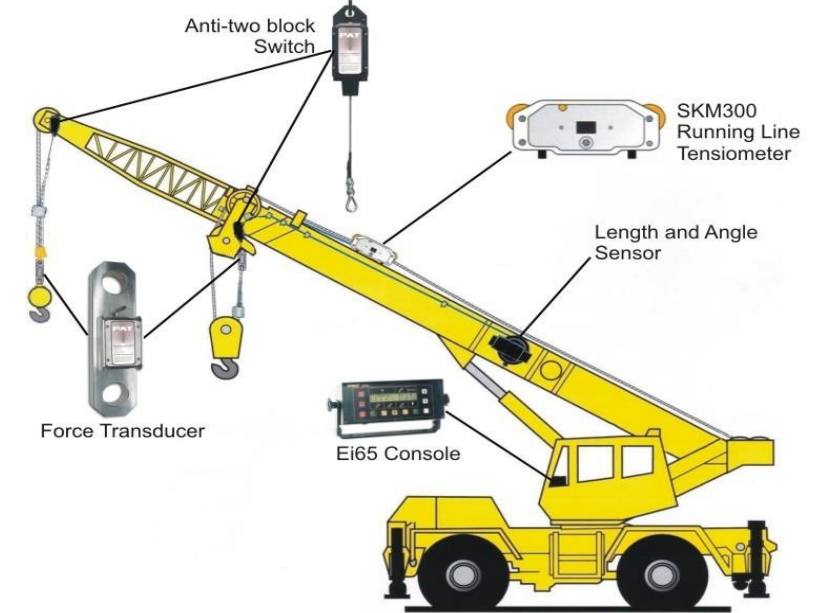
Rigging

- Rigger should be trained and have VOC card
- All rigging gear must be inspected and certified for the current period.
- All rigging gear must be inspected by a qualified rigger prior to each lift to ensure that it is free of defects.
- All lifts must be rigged with appropriately rated rigging gear.
- “Home made”/ uncertified rigging equipment / tools shall not be used.



Crane Safety

- All cranes shall be inspected and third-party certified prior to use.
- All safety devices shall be functional (Anti Two Block Device, load indicator, alarms, horn, etc.)
- Large cranes shall be outfitted with an anemometer.
- Crane operators shall be certified for the type of crane being operated.



Lifting documents

LIFTING EQUIPMENT SAFETY CHECKLIST

قائمة فحص معدة رفع

Cost Center Name : _____ Cost Center No. : _____
Item Serial Number : _____ Inspection Date : _____
الرقم التسلسلي : _____ تاريخ الفحص : _____
Location : _____ الموقع : _____

| SN | Checklist Items عناصر قائمة التفتق | Yes | No | N/A | Remarks ملاحظات |
|----|---|-----|----|-----|-----------------|
| 1 | Calibration certificate, license and the manual Status شهادات المعايرة، والرخص و مرشد المستخدم | | | | |
| 2 | Operating unit status (glass – mirrors – front shield wipers) كاشية القيادة بما تحتويه من (زجاج – مرآيا – المساحات الامامية) | | | | |
| 3 | Wire and slings Status حالة اسلاك الرفع | | | | |
| 4 | Wire operating unit وحدة تشغيل الاسلاك | | | | |
| 5 | The hook and shackles status حالة الخطاف والاقتان | | | | |
| 6 | Load safety latch مفتاح ايزلاقي الحمولة | | | | |
| 7 | Sheave condition حالة البكرة | | | | |
| 8 | Computer الحاسب الآلي | | | | |
| 9 | Batteries status and it's water level حالة البطاريات و مستوى مائزها | | | | |
| 10 | Oil leak تسرب الزيوت | | | | |
| 11 | Mechanical brake الفرامل | | | | |
| 12 | Outtrigger and pads الركائز و القواعد | | | | |
| 13 | Fuel tank and level تلك الوقود و مستواه | | | | |
| 14 | Crane boom status حالة ذراع الرفع | | | | |
| 15 | Manual system for emergency cases نظام الامان اليدوي في حالات الطوارئ | | | | |
| 16 | Engine status حالة المحرك | | | | |
| 17 | Load chart جدول الاحمال | | | | |
| 18 | Lights , signal lights, flashers and alarms الإضاءات – الإشارات – الأنوار التحذيرية – سارينة الإنذار | | | | |
| 19 | Hot parts protection وسائل حماية الاجزاء الساخنة | | | | |
| 20 | Rotating parts protection وسائل حماية الاجزاء المتحركة | | | | |
| 21 | Limit switch مفتاح إيقاف الرفع الآلي | | | | |
| 22 | Lubrication التشحيم | | | | |
| 23 | Water and oil levels | | | | |

LIFTING EQUIPMENT SAFETY CHECKLIST

قائمة فحص معدة رفع

| SN | Checklist Items عناصر قائمة التفتق | Yes | No | N/A | Remarks ملاحظات |
|----|--|-----|----|-----|-----------------|
| | مستوى المياه و الزيت | | | | |
| 24 | Warning signs العلامات التحذيرية | | | | |
| 25 | Electrical wiring الاسلاك الكهربائية | | | | |
| 26 | Fire extinguishers طفاية الحريق | | | | |
| 27 | Seat belt حزام الامان | | | | |
| 28 | Cabinet means of access وسيلة الوصول الى الكابينة | | | | |
| 29 | Crawling parts, tires and wheels الإطارات | | | | |
| 30 | Hydraulic system condition حالة النظام الهيدروليكي | | | | |
| 31 | Mechanical damages and pins status التلفيات و حالة البنوز | | | | |
| 32 | Fork status حالة الشوكة | | | | |

Inspected By:

Name

Position

Signature

Risk Assessments (RA)

- Risk Assessments must be completed for all tasks no matter how big or small
- Everybody involved in a task must understand the risks and hazards of the task
- Everybody involved in the task must sign the RA after being trained on the risks and hazards involved.
- No one that has not signed on the RA is allowed in the area the task is being conducted in



Risk Assessments (RA)

RISK/IMPACT MATRIX

Cost Center Name: **High Speed Rail** Cost Center No.: _____ Revision No.: _____

Risk Assessment for Method Statement No.: _____ Contractor Name: _____ Date: _____

Method Statement Title: _____

1.0 ASSESSMENT MATRIX

1.1 OH&S Risk Matrix

| Severity | Probability 1 | Probability 2 | Probability 3 | Probability 4 | Probability 5 |
|----------|---------------|---------------|---------------|---------------|---------------|
| 1 | 1 | 2 | 3 | 4 | 5 |
| 2 | 2 | 4 | 6 | 8 | 10 |
| 3 | 3 | 6 | 9 | 12 | 15 |
| 4 | 4 | 8 | 12 | 16 | 20 |
| 5 | 5 | 10 | 15 | 20 | 25 |

1. Green (Low Risk 1-8)
2. Yellow (Medium Risk 9-15)
3. Red (High Risk 16-25)

1.2 Environmental and Social Impact Matrix

| Sensitivity | Marginal (1) | Light (2) | Moderate (3) | High (4) |
|----------------|----------------|----------------|--------------|--------------|
| Negligible (1) | Neutral (-) | Neutral (-) | Neutral (-) | Neutral (-) |
| Minor (2) | Negligible (D) | Negligible (C) | Minor (C) | Minor (C) |
| Moderate (3) | Negligible (D) | Minor (C) | Moderate (B) | Moderate (B) |
| Major (4) | Negligible (D) | Minor (C) | Moderate (B) | Major (A) |

Impact Magnitude

a. Spatial extent of the impact: For instance, within the site, boundary to regional, national and international,

b. Compliance: The margin by which an impact meets or fails to meet international, national and local standards, limits or guidance

c. Duration of the impact: Short temporary to long-term permanent

d. Reversibility: Whether environmental conditions return to baseline or not

e. Likelihood: Relatively occurrence under typical conditions to unlikely to occur

f. Nature of impact: The measure of whether the effect has a single direct effect or whether there is a cumulative effect over time or a synergic effect with other conditions

Severity Rate

| Severity Rate | Reference |
|---------------|--|
| 1 | Trivial (Ex. discomfort, self-help recovery) |
| 2 | Minor (Ex. small cut, abrasion, slight bruising, basic first aid need) |
| 3 | Moderate (Ex. strain, sprain, incapacitation, includes those injuries that could result in time off work, Medical Treatment etc. Work Stoppage (Partially Activity Stoppage) / Property Damage (Partially) |
| 4 | Serious (Ex. fracture, broken limbs, injury to eyes, asphyxiation, etc. LTI Work Stoppage (Full Activity Stoppage) / Property Damage (Total Loss) |
| 5 | Fatal (single or multiple)- Death of any person./Work Stoppage (Whole Project Stoppage) |

Probability Rate

| Probability Rate | Reference |
|------------------|--------------------------------------|
| 1 | Rare (almost never) |
| 2 | Unlikely (occurs rarely) |
| 3 | Possible (could occur, but uncommon) |
| 4 | Likely (occurs but not frequent) |
| 5 | Very likely (occurs frequently) |

Magnitude Rate

| Magnitude Rate | Reference |
|----------------|--|
| 1 | Impact are Beneficial |
| 2 | No impact expected |
| 3 | Impact is acceptable |
| 4 | Impact is considered to be short term, reversible and /or localized in context. |
| 5 | Impact are long term but reversible. |
| 6 | Impact are expected to be permanent and non-reversible on a national scale and / or have international significance or result in legislative non-compliance. |

Sensitivity Rate

| Sensitivity Rate | Reference |
|------------------|-----------|
| 1 | Marginal |
| 2 | Light |
| 3 | Moderate |
| 4 | High |

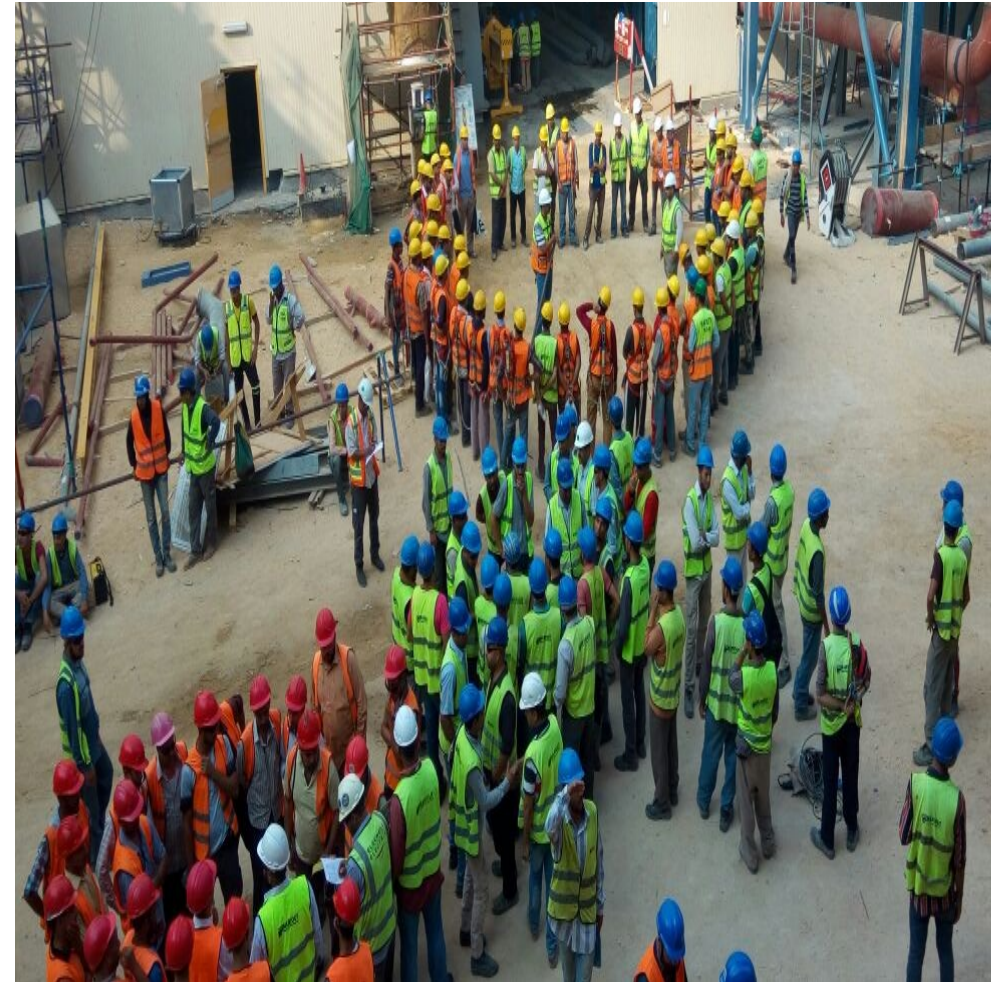
RISK /IMPACT ASSESSMENT

| No. | Activity | Hazard (Ex. Property Damage) | Consequence of Hazard/Impact | Severity (Ex. Property Damage) | Probability (Ex. Property Damage) | Magnitude (Ex. Property Damage) | Sensitivity (Ex. Property Damage) | Severity Rate | Probability Rate | Magnitude Rate | Sensitivity Rate | Overall Risk |
|-----|----------|------------------------------|------------------------------|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------|------------------|----------------|------------------|--------------|
| 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | |
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| 25 | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |

(STARRT) CARD

Safety Task Analysis Risk Reduction Talk

- Every job / task is required to have a STARRT conducted by the Engineer /Supervisor plus TBT.
- Signed by each worker.
- Conduct before each shift start!



Weekly Safety Tool Box Talk (TBT)

- Every Week the TBT shall be conducted by each subcontractor on his respective stations for the site staff (**Date and time Need to be determined**)
- **Attending the TBT is mandatory!**



Commissioning / Operational Areas

Operational Area Layout

**To be Added in accordance
with the site Activities**

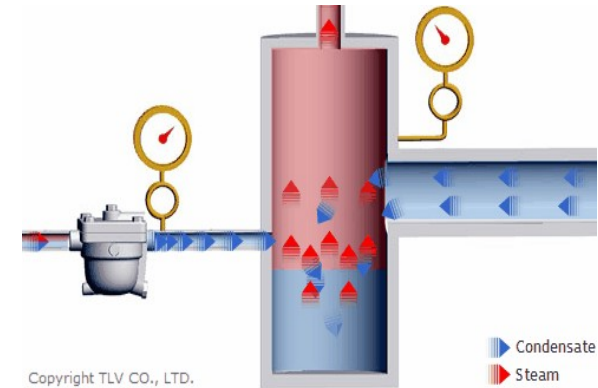
Updated as on TBA

What is Hazardous Energy?

Stored heat (steam lines or hot liquids)

Chemicals in pipelines under pressure or force of gravity

Any other active or stored energy sources that could harm a worker



Hazardous Energy Source Examples

Live electrical lines

Electrical capacitors

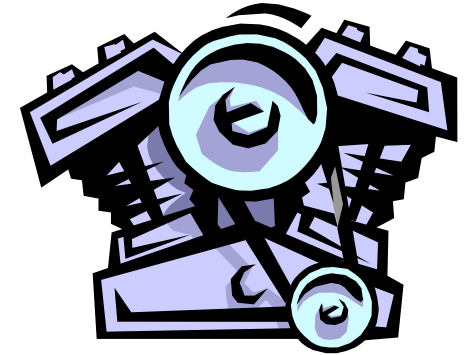
Lasers

Engines that move machinery parts

Hydraulic lifts

Pneumatic (air pressure) lines

Springs



Live Equipment



If there is a signage like this

Do not open.

Communication

- Material Safety Data Sheets (MSDS) are required for ALL chemicals coming on site! All Contractors will provide a copy and list of chemicals to JV Safety upon arrival.
- A MSDS will inform workers of the hazards of the chemical, how to safely handle, use, store, & clean up and dispose of waste substance.
- A master copy of the MSDS forms will be kept in the JV Safety office where they will be available by request.



Chemical Safety

- All workers shall be trained if working with hazardous substances or if used in the area.
- Chemicals must be properly labeled, especially when transferred into separate containers.
- When chemicals are not in use please store them in the appropriate locations.
- If an employee suspects they've been exposed or may have the potential



Material Spillage

- Always plan ahead!
- Spill Kits will be located throughout the jobsite
- In the event of a spill always try to stop the leak at the source (IF SAFE), then stop the leaked substance from spreading (with waddles, absorbent, dikes etc.), then report to supervision for proper documenting, clean up, and disposal.



Working in Chemical Area

- ✂ Whenever you see these symbols, please be informed that you are working with chemicals that could be hazardous.
- ✂ Never smell any chemical directly from its containers.
- ✂ Always wear PPE's whenever working in a chemical area (Chemical protective clothing with full face hood, chemical splash goggles, Respirator, Chemical Resistant Boots, Chemical resistant gloves).



Working in Chemical Area

- ✂ Before starting any work in chemical area we must ensure that the emergency shower is in working condition.
- ✂ If some one comes in contact with any hazardous chemical ,then emergency shower should be used to clean that particular portion of the body for at least 15 minutes before any formal first aid treatment.



Chance finds

✂️ Actions if you do find something:

- ✓ Immediately Stop works in the area.
- ✓ Notify your Supervisor; he will notify JV.

✂️ JV Actions (when receiving a report)

- ✓ Cordon off the area and prevent anyone from entering (at least 2m around the suspected object).
- ✓ Notify the Owner that a Chance find has been made and await further instruction.



Zero Tolerance Behaviors

ZERO TOLERANCE BEHAVIOURS

| Focus Area | Zero Tolerance Behaviours |
|---|--|
| Fall protection الحماية من السقوط | I will utilize proper fall protection measures where a fall of 1.8 m or more could occur. سوف أستخدم وسيلة مناسبة للحماية من السقوط أثناء العمل على ارتفاع 1.8 متر أو أكثر. |
| Scaffolding إستخدام السقالات | I will Verify that scaffolds have been properly inspected /Tagged before use. Modifications only allowed by authorized scaffolders. على أن أتأكد من أن السقالة قد تم فحصها و عليها كارت الصلاحية قبل الإستخدام. أي تعديلات يجب أن تتم عن طريق مختص السقالات فقط. |
| Confined Spaces الأماكن المغلقة | I will obtain and follow an approved confined space Permit before entering. يجب أن أحصل على تصريح لدخول الأماكن المغلقة قبل الدخول. |
| Excavation أعمال الحفر | I will ensure that excavation of more than 1.6 m depth are effectively sloped/shored/benched before entry يجب أن أتأكد من أن أعمال الحفر التي تزيد عن 1.6 متر مؤمنة بشكل مناسب عن طريق (الدعائم/التدعيم) قبل الدخول. |
| Hazardous Energy مصادر الطاقة الخطرة | I will Follow Permit to work requirements and Lockout-Tag out system يجب أن أتبع متطلبات تصاريح العمل وكذلك نظام إغلاق مصادر الطاقة ووضع لاقات عليها. |
| Reporting Injuries الإبلاغ عن الإصابات | I will report all injuries to the Consortium Site Management within 24 hours. سأقوم بالإبلاغ عن الإصابات لإدارة الموقع خلال 24 ساعة على الأكثر. |
| Tools الأدوات | I will, when working at height, secure all tools/ equipment against dropping or will barricade or protect the area below. في حالة عملي على ارتفاعات يجب أن أؤمن كل الأدوات/المعدات من خطر السقوط أو سأعمل على تركيب حواجز أو سأعمل على حماية المنطقة أسفل عملي. |
| Driving/Operating Equipment قيادة السيارات / تشغيل المعدات | I will not use a cell phone or tablet (Talking or Texting) while operating construction equipment or machinery. أن و لم أستخدم الهاتف الخليوي أو الأجهزة اللوحية (تحدثاً أو كتابةً) أثناء تشغيل آلات أو معدات الإنشاء. |
| Safety Documentation توثيق ملفات السلامة | I will ensure that safety documentation is completed accurately and honestly. على التأكد من أن ملفات السلامة كاملة بدقة و امانة. |
| Personal Behavior السلوكيات الشخصية | I will refrain from misconduct which can affect person's personal safety*. أستبعد بالإنقياد عن السلوكيات التي قد تؤدي إلـم الإضرار بسلامة زملائي بالعمل*. |
| *Examples *على سبيل المثال | <ul style="list-style-type: none"> - An unsafe act or behavior which causes an injury. - Working on or near live electrical equipment without using the required protective equipment. - Smoking around the power block once fuel has been received. - الأفعال أو السلوكيات التي قد تتسبب في الإصابة - العمل على أو بجانب خطوط الكهرباء المشحونة بدون إستخدام معدات الوقاية الشخصية المطلوبة - التدخين بجوار مصادر الطاقة أثناء عمليات الإمداد بالوقود |



1. Lone Working

Zero Tolerance Behaviors

never working
alone and
never order or
force any one
to work alone.

Within
construction
site.

Remote Location

Temporary Work.



3. **Fall Protection**

Zero Tolerance Behaviors

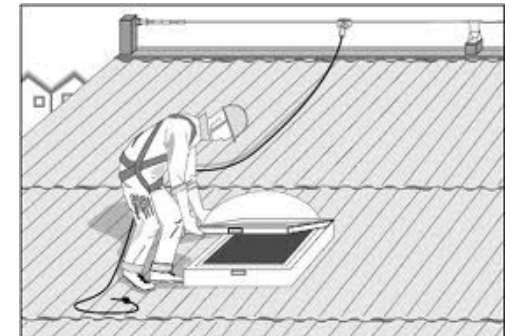


Fall Protection
100 % "Tie
Off"
mandatory ,for
work where a
fall of 1.8
meters or 6
feet could
occur.

When using
scaffolding.

When on ladder

When working
near
unprotected
edges



Zero Tolerance Behaviors

4. Scaffolding

Using a red tagged scaffold, or an unauthorized modification of a scaffold.

Scaffold under construction

Scaffold looks ok but no tag is present.

Welder cannot reach work area and decides to reconfigure



Zero Tolerance Behaviors

5. **Confined Space**

Entering a
Permit
Required
Confined
Space
without an
approved
permit.

Fuel
storage
tanks.

Vaults and
manholes.

Chemical tanks
and Pipe Line



Zero Tolerance Behaviors

6. **Excavations**

Entering into excavations
1.6m or 5
feet without
required
sloping/
shoring/
benching.

Pipeline
trenches

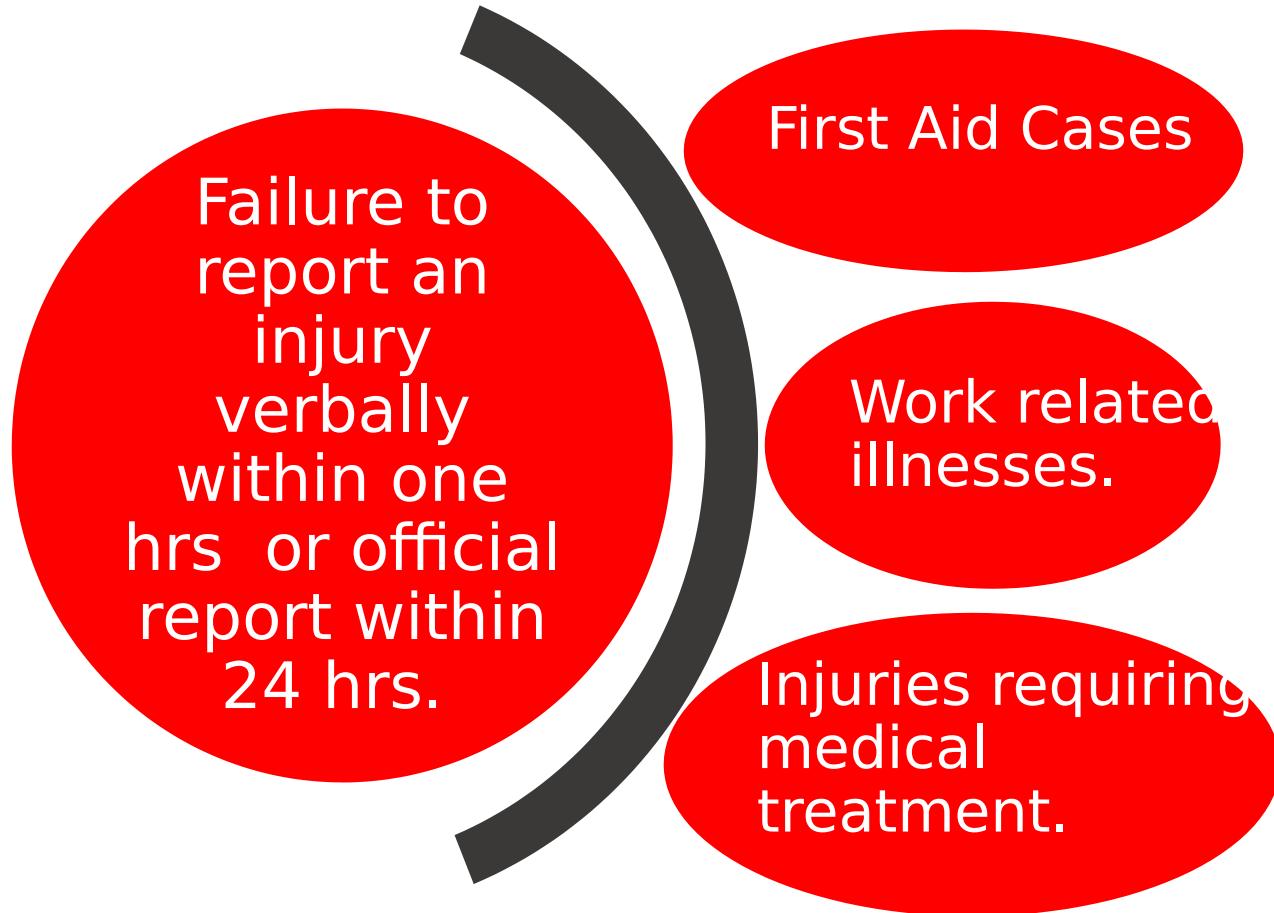
Foundation
excavations.

Duct banks and
Manhole
excavations.



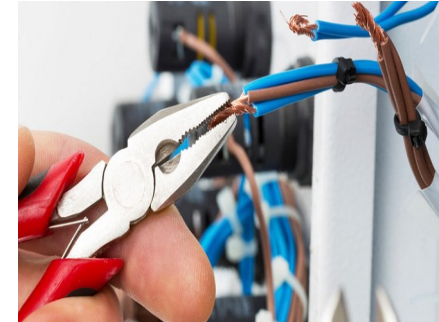
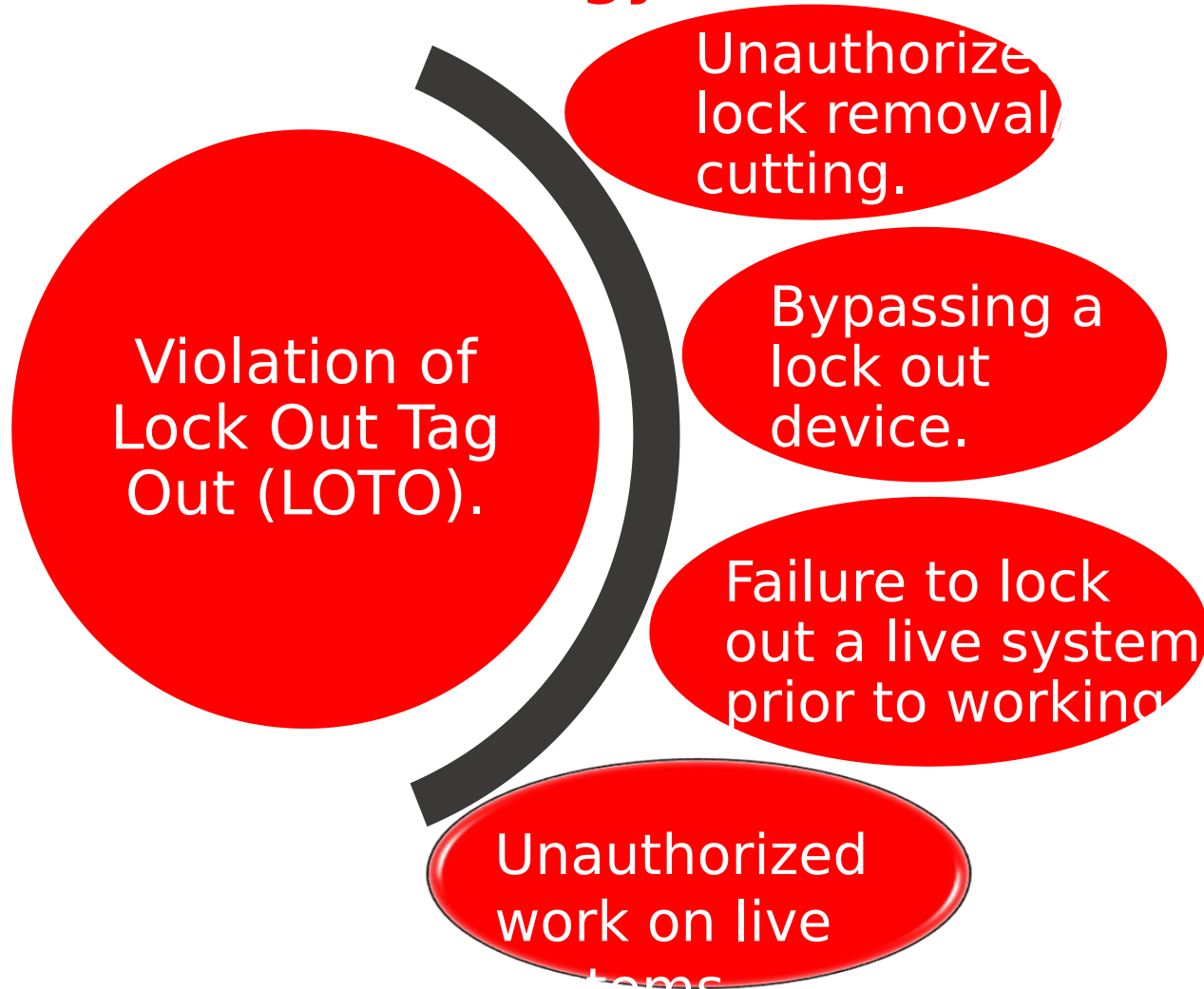
Zero Tolerance Behaviors

7. Reporting Injuries



Zero Tolerance Behaviors

8. Hazardous Energy



Zero Tolerance Behaviors

9. **Dropped objects**

Failure to
secure
tools/equipm
ent/material
or lower
areas when
working at
height.

Tools

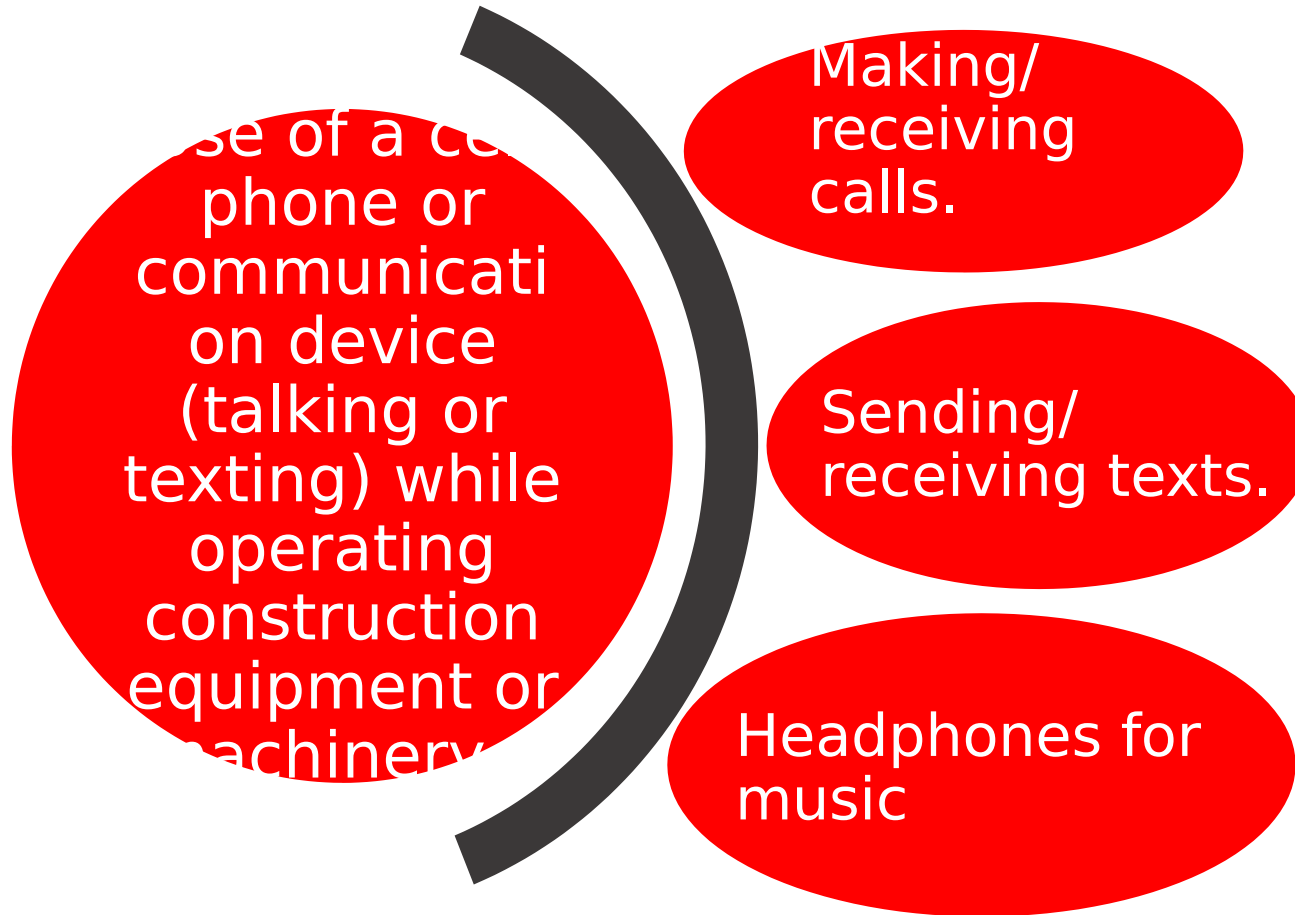
Stored material

Used
material/offcuts.



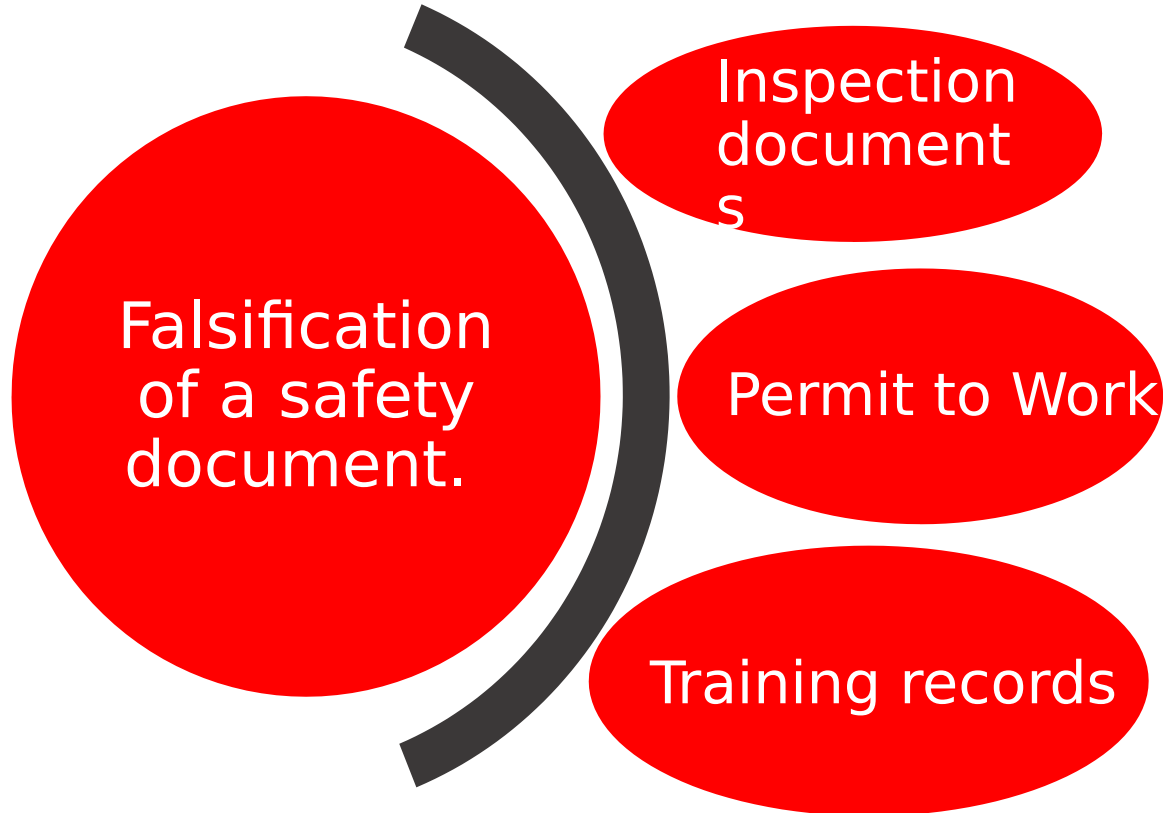
Zero Tolerance Behaviors

10. Driving/operating



Zero Tolerance Behaviors

11. Documentation



12. Misconduct

Zero Tolerance Behaviors

Misconduct
regarding
personal
safety leading
to a safety
accident/
incident.

Speeding
and
Horse Play

Operation of
defective tools/
equipment.

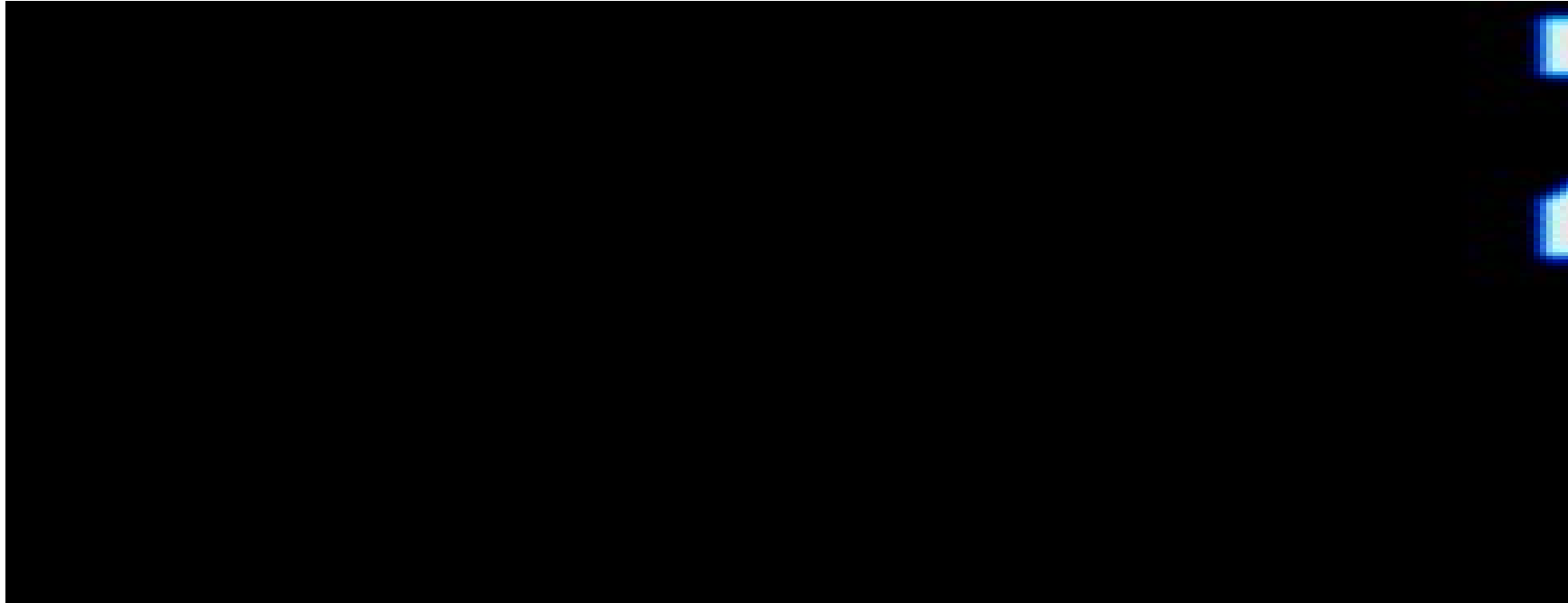
Defacing/ removal
of warning signs
or barricades.



Zero Tolerance Behaviors

Implementation

Violations of the Zero Tolerance policy will be reported to the JV for review and action.



Incentive system

Outstanding HSE
performance will be
appreciated and
recognized in the
monthly HSE meeting.





The Arab Contractors
Osman Ahmed Osman & Co.
المقاولون العرب
عثمان أحمد عثمان وشركاه



PSP

Incentive system



Compliance with the safety instructions

Induction / Training Attendance Form

Everyone shall sign the attendance form.
This means that it is a **recognition of him that he is aware of all the risks and hazards and he known how to deal with them Safely**

SAFETY INDUCTION ATTENDANCE SHEET

كشف حضور محاضرة التوعية الأولية

Project No. : رقم المشروع : _____ Project Name : اسم المشروع : _____ Date : التاريخ : _____

I, the undersigned wish to confirm that I attended a Safety Induction which includes the following items:
أقر أنا الموقع أدناه أنني قد حضرت محاضرة توعية تشرح كل إجراءات السلامة بالموقع والتي تتضمن على النحو التالي:

| Sr. | Item | Sr. | Item |
|-----|---|-----|---|
| 1 | Introduction to the Company's Safety Policy. مقدمة عن سياسة السلامة الخاصة بالشركة | 12 | Accident reporting procedures إجراءات الإبلاغ عن الحوادث |
| 2 | Scope of work نطاق الأعمال | 13 | Site specific safety rules قواعد السلامة الخاصة بالموقع |
| 3 | Site Team Members أعضاء فريق العمل بالموقع | 14 | Good housekeeping الحفاظ على نظافة الموقع |
| 4 | Site Layout تخطيط الموقع | 15 | Waste management إدارة النفايات |
| 5 | Site Security أمن الموقع | 16 | Control of hazardous substances التحكم في المواد الخطرة |
| 6 | Safe means of access and egress وسائل الوصول والمغادرة الآمنة بالموقع | 17 | Environmental issues القضايا البيئية |
| 7 | Emergency procedures إجراءات الطوارئ بالموقع | 18 | Permits required on site التصاريح المطلوبة في الموقع |
| 8 | Duties of employees مهام الموظفين | 19 | Safety incentive scheme نظام الحوافز للسلامة بالموقع |
| 9 | Communications وسائل التواصل | 20 | Disciplinary Procedure نظام العقوبات بالموقع |
| 10 | Particular risks and relevant rules المخاطر المحددة وقواعد السلامة المتعلقة بها | 21 | Bullying complaints procedure إجراءات الشكاوى المتعلقة بالتحرش |
| 11 | First Aid إجراءات الإسعافات الأولية | 22 | Alcohol & Drug policy السياسة المتعلقة بالكحول والمخدرات بالموقع |

| Sr. | Name : الاسم | Civil ID No. | Position : الوظيفة | Signature : التوقيع | Date : التاريخ |
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HSE Instructor : مدافع السلامة : _____ Signature : التوقيع : _____

**ANY
QUESTIONS**





The Arab Contractors
Osman Ahmed Osman & Co.
المقاولون العرب
عثمان أحمد عثمان وشركاه



PSP



THANK YOU



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